

REMARKS

The outstanding non-final Office Action mailed April 21, 2004 has been carefully considered. In response thereto, please enter the following amendments in which claims 1, 3, 4, 8, 13, and 16 are amended; claim 2 is canceled; and claims 19-22 are added. Claims 1 and 3-22 are now pending in the present application. Reconsideration and allowance of the application and presently pending claims, as amended, are respectfully requested.

Examiner Interview

Applicants wish to thank Examiner Ho for his telephonic interview with Applicants representative Mr. Eric M. Ringer, Reg. No. 47,028 on June 15, 2004. During the interview, Applicants representative asked if claim 2 would be allowable, if claim 2 were amended to include all of the limitations of claim 1 except for the following limitation, "wherein the x-ray source and the x-ray detector are aligned on the mounting plate such that the x-ray beam emitted from the x-ray source is incident upon a given crystallographic plane atoms in the target area of the material at the Bragg angle for the given crystallographic plane of atoms and the x-ray detector is configured to detect the x-rays diffracted at the approximate Bragg angle." Examiner Ho indicated that claim 2 would be allowable if it were amended as discussed. In the interest of advancing prosecution, Applicants have amended claim 1 to delete the above-cited limitation of claim 1 and to add the limitation of claim 2 into claim 1. Therefore, Applicants believe that claim 1, as amended, is in condition for allowance.

During the interview, Examiner Ho expressed his opinion that the limitation of "wherein the x-ray source in the x-ray detector are aligned on the mounting plate such that the x-ray beam emitted from the x-ray source is incident upon a given crystallographic plane atoms in the target area of the material at the Bragg angle for the given crystallographic plane of atoms and the x-ray detector is configured to detect the x-rays diffracted at the approximate Bragg angle" did not provide patentable weight because the Bragg angle is an inherent feature of the material being examined and that according to the Examiner the limitation was not directed to the apparatus. Applicants

respectfully traverse this assertion and submit that the limitation is directed to the apparatus because the x-ray source in the x-ray detector are mounted to the mounting plate in a specific orientation and that orientation is such that the detector will detect x-rays diffracted at the Bragg angle for a given crystallographic plane. Applicants have amended the independent claim to remove reference to the Bragg angle. However, Applicants believe that the original independent claims were allowable, and Applicants amendments to the independent claims are being done to advance prosecution of Applicants application. Therefore, the amendments to the independent claims were done without prejudice or waiver.

Amendments to the Specification

The disclosure was objected to because of informalities. Applicants have amended the specification to cure the informalities.

Response to Claim Objections

Claims 1, 5, 6, 13, and 16 stand objected to. Specifically, claims 1, 5, 6, 13, and 16 are objected to because each of the claims includes one or more of the following phrases: “adapted to” or “configured to.” The Office Action asserts that “[l]anguage, such as ‘adapted to’, that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.” As an Administrative Agency of the United States, it is imperative that the United States Patent and Trademark Office act consistently in carrying out its administrative function. The phrases “adapted to” and “configured to” are routinely found in claims of issued United States patents. Applicants have attached Exhibits 1 – 6, which are partial search results at the United States Patent and Trademark Office on June 29, 2004, of the claims of issued United States Patents.

Regarding claim 1, Applicants’ claim 1 includes the limitations “adapted to emit” and “adapted to detect.” Exhibit 1 shows that as of June 29, 2004, there were 1054 United States patents with the phrase “adapted to emit” in the claims. Appendix 2 shows that as of June 29, 2004, there were 2813 United States patents with the phrase “adapted

to detect” in the claims. For the convenience of the Examiner, claim 1 of U.S. Pat. No. 6,756,594 and claim 31 of U.S. Pat. No. 6,757,891 are set out immediately below:

Claim 1. A sensor engine for producing an electromagnetic emission and detecting a change in the equilibrium temperature of the sensor engine, comprising: a sensor engine having a temperature and comprising a substrate surface *adapted to emit* an electromagnetic emission, the substrate surface having emission features disposed thereon, the emission features having a periodic array structure such that the emission features interact with the electromagnetic emission as a photonic bandgap structure filtering the electromagnetic emission to provide the electromagnetic emission with a narrow spectral bandwidth, the sensor engine being made from a material having a non-zero temperature coefficient of resistivity. (Emphasis Added.)

Claim 31. The computer according to claim 24, wherein the overhead reduction unit is *adapted to detect* deadlock. (Emphasis Added.)

Regarding claim 4, Applicants’ claim 4 includes the limitation “configured to align.” Exhibit 3 shows that as of June 29, 2004, there were 361 United States patents with the phrase “configured to align” in the claims. For the convenience of the Examiner, claim 8 of U.S. Pat. No. 6,756,802 is set out immediately below:

Claim 8. The system of claim 6 wherein the module and the board have major surfaces and the test handler is *configured to align* the module and the board generally planar to a common plane. (Emphasis Added.)

Regarding claim 5, claim 5 includes the limitation “adapted to measure.” Appendix 4 shows that as of June 29, 2004, there were 1341 United States patents with the phrase “adapted to measure” in the claims. For the convenience of the Examiner, claim 28 of U.S. Pat. No. 6,756,594 is set out immediately below:

Claim 28. The gas sensor according to claim 18, wherein the monitor in part comprises a wheatstone bridge *adapted to measure* the temperature of the sensor engine. (Emphasis Added.)

Regarding claim 6, Applicants’ claim 6 includes the limitation “adapted to provide electrical power.” Exhibit 5 shows that as of June 29, 2004, there were 36 United

States patents with the phrase “adapted to measure” in the claims. For the convenience of the Examiner, claim 13 of U.S. Pat. No. 6,692,545 is set out immediately below:

Claim 13. The system as defined in claim 12 wherein the expander is an isothermal expander ***adapted to provide electrical power*** for rotating the wheel relative to the valving. (Emphasis Added.)

Regarding claim 20, Applicants’ claim 20 includes the limitation “configured to detect,” which was in the original claim 1. Exhibit 6 shows that as of June 29, 2004, there were 2365 United States patents with the phrase “configured to detect” in the claims. For the convenience of the Examiner, claim 1 of U.S. Pat. No. 6,757,863 is set out immediately below:

Claim 1. A read channel circuit for decoding a playback signal received from a prescribed transmission path, comprising:

a slice level signal generator configured to generate a reference slice level signal and a plurality of slice level signals which are different from the reference slice level signal;

a comparator configured to convert the playback signal into a plurality of binary signals synchronized with a channel clock on the basis of each of the plurality of slice level signals generated;

a phase distance measurement unit configured to select two binary signals from the plurality of binary signals and measure a phase distance which represents the number of edges in a prescribed clock between the edges of the two binary signals selected;

an inverted edge detector ***configured to detect*** the polarity of an inverted edge of a reference binary signal binarized in accordance with the reference slice level signal among the plurality of binary signals; and

an error corrector configured to generate an error correction signal to the playback signal on the basis of the phase distance measured and the polarity of the inverted edge of the reference binary signal detected to perform error correction on the playback signal.

Regarding claim 13 and 16, Applicants’ claims 13 and 16 each include the limitations of “adapted to have the x-ray source.” Applicants have omitted search results

for “adapted to have the x-ray source” because the words “to”, “have”, and “the” are not searchable terms. See Exhibit 7. However, as evidenced by Exhibits 1 – 6, it is clear that the United States Patent Office. routinely allows claims that include the phrase “adapted to.”

In conclusion, Applicants respectfully request that these objections be withdrawn because for the same reasons that the United States Patent Office issued the above identified patents, it should not deem the above cited claim elements indefinite.

Response to 35 U.S.C. §102 Rejection

Claims 1, 6-9, 11 and 13-15 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Hayashi *et al.* (U.S. Patent No. 4,426,718) and allegedly being anticipated by Ogiso (U.S. Patent No. 3,868,506). Applicants respectfully request reconsideration.

1. Response to Rejection of Independent Claim 1

A. Amended Claim 1

Applicants have amended claim 1 to include the limitation of claim 2, i.e., “the mounting plate is adapted to have the x-ray source and x-ray detector rigidly mounted thereto in a finite number of alignments.” As previously discussed hereinabove, during the interview on June 15, 2004, Examiner Ho indicated the allowability of an independent claim having the limitation of “the mounting plate is adapted to have the x-ray source and x-ray detector rigidly mounted thereto in a finite number of alignments.” Therefore, Applicants respectfully submit that claim 1 is in condition for allowance.

B. Dependent Claims

Dependent claims 3-7 and 20 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. In *re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

2. Response to Rejection of Independent Claim 8

A. Statement of Rejection

According to the Office Action, *Hayashi* allegedly disclose “a method for examining the internal structure of a component, the method comprising the steps of: aligning an x-ray source (18) and an x-ray detector (22) in a rigid and predetermined orientation; irradiating a target area (10) of a surface of a component with an x-ray beam (20) from the x-ray source, wherein the x-ray beam is incident upon a particular crystallographic plane of atoms at the Bragg angle for that plane; detecting x-rays diffracted (21) from the target area of the component with an x-ray detector (22); determining an indicator (d-spacings, crystal structure, *etc.*) of the internal structure from the intensity as a function of angular dispersion of the diffracted x-rays detected by the x-ray detector.” (See pages 3 and 4.) In addition, according to the Office Action *Ogiso* allegedly disclosed “a method for examining the internal structure of a component, the method comprising the steps of: aligning an x-ray source (2) and an x-ray detector (3, 4, 5) in a rigid and predetermined orientation; irradiating a target area (1) of a surface of a component with an x-ray beam (a) from the x-ray source, wherein the x-ray beam is incident upon a particular crystallographic plane of atoms at the Bragg angle for that plane; detecting x-rays diffracted (b, c, d) from the target area of the component with an x-ray detector (3, 4, 5); determining an indicator (d-spacings, crystal structure, *etc.*) of the internal structure from the intensity as a function of angular dispersion of the diffracted x-rays detected by the x-ray detector”. (See page 5.)

B. Amended Independent Claim 8

Amended claim 8 includes the limitation of “aligning an x-ray source and an x-ray detector in **one of a finite number** rigid and predetermined orientations.” Applicants respectfully submit that the cited references fail to disclose aligning the x-ray source and x-ray detector in one of a finite number orientations. Specifically, *Hayashi* discloses an x-ray detector consisting of a scintillator 50 and a light sensor 51. (Column 3, lines 11-13.) “The light sensor 51 is allowed to turn around its own axis by a motor 55 via a shaft 54.” (Column 3, lines 26-27). (See column 3, lines 34-61 for further details of controlling components of the x-ray detector of *Hayashi*.) Thus, Applicants respectfully

submit that *Hayashi* fails to disclose one alignment. With regard to *Ogiso*, *Ogiso* discloses the x-ray tube 2 is fixedly attached to a mount 6, and the detectors 3, 4, and 5 are mounted on a circular guide 7 formed on the mount 6 so that are moveable among guide rail 7. (Column 1, lines 57-60.) Applicants submit that the x-ray source and the x-ray detectors of *Ogiso* are not aligned in “**one of a finite number**” of orientations because an electric motor drives the detectors (3, 4, 5) symmetrically about the axis of incident x-rays. (Column 1, lines 63-66.)

As discussed hereinabove, Applicants respectfully submit that the combination of *Hayashi* and *Ogiso* fails to disclose orientating the x-ray source and x-ray detectors in **one of a finite number** of orientations. Therefore, Applicants respectfully request that this rejection be withdrawn.

C. Dependent Claims

Dependent claims 9-15, 21 and 22 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

3. Response to Rejection of Claims 6 and 7

Claim 6 includes the limitation “the x-ray source controller adapted to provide electrical power and initiation and operation parameters to the x-ray source,” and claim 7 includes the limitation “the storage device stores information related to the angular dispersion of the diffracted x-rays.” The Office Action alleges that the above cited limitations are inherent. Applicants traverse the Office Action’s finding of inherency. As per MPEP 2112, “[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’ ” In re *Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Furthermore, Applicants refer to the Federal Circuit decision of *In re Sang-Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). As clearly articulated in this

opinion, general conclusions of obviousness will not be upheld, without clear evidentiary facts to support them. In this regard, Office Action rejections “cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.” The Sang-Su Lee opinion further states that Office Actions “must make findings of facts, and present [their] reasoning in sufficient detail that [a] court may conduct meaningful review of the agency action.” Here, the Office Action has alleged that the above cited limitations are inherent, but the Office Action has failed to provide any evidentiary facts to support the conclusions. Therefore, Applicants respectfully submit that these rejections fall far short of the legal requirement articulated by the Federal Circuit and respectfully request that these rejections be withdrawn.

Response to 35 U.S.C. §103 Rejection

Independent claim 16 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Ogiso. (U.S. Patent No. 3,868,506).

Applicants respectfully request that this rejection be withdrawn for at least two reasons. First, amended claim 16 includes the limitation “the mounting system is adapted to have the x-ray source and x-ray detector mounted thereon in a finite number of configurations.” Applicants respectfully submit that the cited art fails to disclose the claimed limitation. Therefore, Applicants respectfully request that this rejection be withdrawn.

Second, Applicants respectfully submit that the rejection of claim 16 is improper. The Office Action has rejected claim 16 under 35 U.S.C. §103(a). However, “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” MPEP 2143.03. Here, the Office Action has only cited one piece of prior art, which does not include or suggest all of the claimed limitations, and the Office Action has failed to take Official Notice for limitations that were not allegedly disclosed within the cited reference. Therefore, Applicants respectfully request that this rejection be withdrawn.

Furthermore, Applicants traverse the assertion that “it would have been obvious to a person of ordinary skill in the art...to provide a housing for the apparatus, since a person would be motivated to shield the operator from scattered radiations.” (See page 8 of the Office Action.) General conclusions of obviousness will not be upheld, without clear evidentiary facts to support them. *In re Sang-Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). In this regard, Office Action rejections “cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.” The *Sang-Su Lee* opinion further states that Office Actions “must make findings of facts, and present [their] reasoning in sufficient detail that [a] court may conduct meaningful review of the agency action.” Here, the Office Action alleges that it would have been “obvious to provide a housing for the apparatus, since a person would be motivated to shield the operator from scattered radiations.” However, the Office Action has failed to provide any evidentiary facts to support the conclusion that “a housing defining an exterior surface and a generally hollow interior ... the housing defining a **window** extending from the interior to the exterior surface” would have been obvious. Therefore, Applicants respectfully submit that this rejection falls far short of the legal requirement articulated by the Federal Circuit and respectively request that this rejection be withdrawn.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1, 3-22 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,


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